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In the Claims:

Please amend the claims to the following:

1-30 (canceled)

31. (new) A device for use with reactor tubes in a chemical reactor, comprising:

at least one probe sized to fit into a chemical reactor tube;

an automatic measuring device fixed relative to said probe for automatically measuring the distance to a fixed reference point within the chemical reactor; and

means for automatically identifying the reactor tube in which said probe is inserted based on the distance measured by said automatic measuring device.

32. (new) A device for use with reactor tubes in a chemical reactor as recited in claim 31, wherein said automatic measuring device includes a laser.

33. (new) A device for use with reactor tubes in a chemical reactor as recited in claim 32, and further comprising a target including at least one leg sized to fit into one of said chemical reactor tubes.

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34. (new) A device for use with reactor tubes in a chemical reactor as recited in claim 32, and further comprising:

means for automatically electronically storing data identifying the reactor tube in which said probe is inserted.

35. (new) A device for use with reactor tubes in a chemical reactor as recited in claim 34, and further comprising:

means for transmitting the data identifying the reactor tube to a remote location.

36. (new) A device for use with reactor tubes in a chemical reactor as recited in claim 35, and further comprising:

means for graphically displaying the identity of said identified reactor tube at said remote location.

37. (new) A device for use with reactor tubes in a chemical reactor as recited in claim 36, wherein said means for graphically displaying includes means for displaying the identity of said identified reactor tube at said remote location shortly after the distance measurement is taken so an operator at the remote location can watch the progress of the device as its probe is moved from one reactor tube to another within the reactor.

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38. (new) A device for use with reactor tubes in a chemical reactor as recited in claim 31, wherein said probe is a tubular member having an outer surface and an inner surface, said inner surface defining an internal fluid path; said device further comprising:

a fluid inlet in fluid communication with said internal fluid path.

39. (new) A device for use with reactor tubes in a chemical reactor as recited in claim 38, and further comprising:

a plurality of injector tubes fixed relative to each other and to said tubular member, said injector tubes being spaced apart and sized to fit into respective reactor tubes, each of said injector tubes also defining an internal fluid path in fluid communication with said fluid inlet; and

means for automatically identifying the reactor tubes which receive said injector tubes based on the distance measured by said automatic measuring device.

40. (new) A device for use with reactor tubes in a chemical reactor as recited in claim 38, and further comprising:

a tubular elastic sleeve mounted over said outer surface of said tubular member, said elastic sleeve having both an upper end and a lower end sealed against said outer surface to define a sealed space between said elastic sleeve and said outer surface; and

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an inflation tube in fluid communication with said fluid inlet and extending into said sealed space for inflating said elastic sleeve in order to allow it to seal against its respective chemical reactor tube.

41. (new) A device for use with reactor tubes in a chemical reactor as recited in claim 40, and further comprising:

a plurality of injector tubes fixed relative to each other and to said tubular member, said injector tubes being spaced apart and sized to fit into respective reactor tubes, each of said injector tubes including a tubular elastic sleeve having upper and lower ends sealed against their respective injector tube to define a sealed space between the injector tube and the sleeve and an inflation tube extending into the respective sealed space for inflating said elastic sleeve.

42. (new) A device for use with reactor tubes in a chemical reactor as recited in claim 40, wherein said outer surface of said tubular member defines a recess, and a portion of said inflation tube is received in said recess and extends along said outer surface.

43. (new) A device for use with reactor tubes in a chemical reactor as recited in claim 40, and further comprising:

at least one constant flow device in fluid communication with said internal fluid path; and

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a pressure sensor in fluid communication with said internal fluid path.

44. (new) A device for use with reactor tubes in a chemical reactor as recited in claim 43, wherein said constant flow device is a precision orifice.

45. (new) A device for use with reactor tubes in a chemical reactor, comprising:

at least one tubular probe sized to fit into a chemical reactor tube, said tubular probe including a fluid inlet; a fluid outlet; and a fluid path from said fluid inlet to said fluid outlet;

a flexible seal surrounding said tubular probe for sealing between the tubular probe and the chemical reactor tube; and

an automatic measuring device fixed relative to said probe for automatically measuring the distance to a fixed reference point within the chemical reactor.

46. (new) A method for working on reactor tubes in a chemical reactor, comprising the steps of:

establishing a reference point inside the reactor;

inserting a probe into one of the reactor tubes;

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automatically measuring the distance between a point fixed relative to the probe and the reference point; and

automatically identifying the reactor tube in which said probe is inserted based on the measured distance.

47. (new) A method for working on reactor tubes in a chemical reactor as recited in claim 46, wherein the step of automatically measuring the distance is performed by a laser measurement device.

48. (new) A method for working on reactor tubes in a chemical reactor as recited in claim 46, wherein said probe is an injector tube, and further comprising the steps of:

sealing between said injector tube and said reactor tube; and

injecting fluid through said injector tube into said reactor tube.

49. (new) A method for working on reactor tubes in a chemical reactor as recited in claim 48, wherein said step of sealing between said injector tube and said reactor tube includes inflating an elastic sleeve that is mounted on said injector tube.

50.(new) A method for working on reactor tubes in a chemical reactor as recited in claim 49, wherein said injector tube has an outer surface which

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defines a recess, and an inflation tube for inflating the elastic sleeve is received
in said recess and extends along the outer surface.

Respectfully submitted,



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